The State Of Power Energy Before The Advent Of Current Pakistani Government In Pakistan.

By:fariya Khan.

Introduction:

Load shedding is one of the serious problems of Pakistan. The PML-N had claimed in the 2013 elections that it will solve this problem only in a year. In spite of all claims and their rule of five years, they failed completely in generating sufficient electricity. The former CM of Punjab Shahbaz Sharif said, "Load shedding is your problem now." The long duration of load shedding in the sacred month of Ramadan exposed the performance of the ruling party. The circular debt of Rs400 billion is a clear proof of the mismanagement in the energy sector. The auditor general of Pakistan severely objected to the payment of 80 billion rupees in this regard previously. The reasons for the fake energy crisis and its solution are given below.

According to estimation, 22,000-24,000 megawatt electricity is needed in Pakistan. This demand increases up to 5% each year. It means 1,000 or1,200 megawatt is added. Unfortunately, we have never been able to produce more than 18,000-megawatt energy. The government claimed to produce 24,000MW electricity. But even NTDC, which is an institution of the government, does not confirm it.

Because this institution does not have the capacity for transmission and distribution of more than 18,000MW, several new institutions, including the wind power generating institutions, are not being allowed to produce the electricity more than a certain level.

The difference between power generation and capacity for transmission is also the inability of our governments. It means that there is a difference of 6,000MW between the production and the transmission of power. It is expressed in the form of load shedding in the whole country. Definitely, the government has completed many power projects in its five years. But the difference between demand and supply which was 5,000MW in 2013, has reached up to the level of 6,000MW in 2018. The government of PML-N had started the energy projects that are based on LNG and coal.

Electricity Sector In Pakistan:

Electricity in Pakistan is generated, transmitted, distributed, and retail supplied by two vertically integrated public sector utilities: Water and Power Development Authority (WAPDA) for all of Pakistan (except Karachi), and the Karachi Electric (K-Electric) for the city of Karachi and its surrounding areas. There are around 42 independent power producers (IPPs) that contribute significantly to electricity generation in Pakistan.

Pakistan electricity sector is a developing market. For years, the matter of balancing the country's supply against the demand for electricity had remained a largely unresolved matter. The country faced significant challenges in revamping its network responsible for the supply of electricity. Electricity generators were seeking a parity in returns for both domestic and foreign investors indicating it to be one of the key issues in overseeing a surge in electricity generation when the country was facing growing shortages.

Other problems included lack of efficiency, rising demands for energy, and political instability. Provincial and federal agencies, who are the largest consumers, often do not pay their bills. At one point electricity generation had shrunk by up to 50% due to an over-reliance on fossil fuels. The country was hit by its worst power crisis in 2007 when production fell by 6000 Megawatts and massive blackouts followed suit. Load Shedding and power blackouts had become severe in Pakistan before 2016.

As late as 2015 massive long-standing electricity shortages continued with long-standing failure to provide reliable service and rampant corruption being met by public protests, unauthorized connections, and refusal by consumers to pay for intermittent service.

Installed Capacity :

(2017) : Electricity – total installed capacity: **25,000 MW**.

(2016) : Electricity – Sources.

fossil fuel – 14,635 MW – 64.2% of total(oil-35.2% + gas-29%).

hydro – 6,611 MW – 29% of the total.

nuclear – 1,322 MW – 5.8% of total average demand-17,000 MW .

The Curse Of Power Shortage:

No country can progress without proper utilization of its resources. The people of Pakistan are facing lots of problems due to a shortage of electricity. The problem of power failure led to many social and economic crises in Pakistan. The problem of shortage of electricity exists since last 12 years in Pakistan. Now the shortfall of electricity is touching alarming levels of

about 8000 megawatts. We should take benefit of the natural resources of Pakistan. In our country, there are many reservoirs of coal, gas and oil. If we utilize these resources, we can surely provide benefits to others.

Being a Pakistani we should not consider our personal benefits but think of our beloved country Pakistan. We should pay attention to increase our power production by building too many dams. Due to a shortage of dams water is wasted and due to heavy rainfall flood comes in parts of our country every year. If this situation continues sooner or later the industry of Pakistan will finish or the industrialists will shift their industries to other countries.

As a result of unemployment, poverty and terrorism will rule over Pakistan. The authorities concerned should take serious steps to increase our power production. The government should promote technology in our country so that talented people come forward with useful ideas.[1]

Information and Broadcasting Minister Urged For Immediate Reforms In Energy Sector To Resolve Power Crisis :

Previous Caretaker Information broadcasting Minister (2018: pre-Gen elec Period) Barrister Syed Ali Zafar, Friday, presented guidelines for power sector for the consideration of the incoming Government, saying that immediate reforms are required in the energy sector to solve the energy crisis in Pakistan.

The guidelines are prepared with the help of private and public experts in the field who are fully conversant with the present energy crisis of Pakistan. As a first step, there is an urgent need of constituting an Advisory Board within the energy sector whose role would be to design comprehensive policy on energy and advising whether the policy is being properly implemented. While chairing a meeting where he said that an independent audit should be carried out to determine what was the exact total generation of electricity so that the future need of the energy requirement can be determined and the necessary steps and

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[1] **https://pakobserver.net/curse-power-shortage/**

measures are initiated beforehand. He also said that rather than depending on the total generation capacity it is essential that we should rely on the available generation capacity because as an estimate the total generation capacity of Pakistan is around 33,000 MW however this total generation capacity is not always available for various reasons such as lack of water or fuel, breakdowns, plant maintenance, de-rating in the capacity due to lack of maintenance etc.

The available capacity is, however, less than the demand which results in load shedding. He stated that there is a dire need to increase the generation capacity in the coming years. Barrister Zafar also said that the role of AEDB has to be increased and rather than using R-LPG and coal as fuel to generate electricity, preference should be given to wind and solar projects.

He quoted the example of Germany and while stressing upon the need for harnessing wind and solar resources, he said that Pakistan is a country which has great potential for solar and wind projects. He also said that the issues of Diamer Basha and Mohmand Dams have to be resolved immediately and once and for all and run of the rivers projects like Sukki Kinari have to be implemented.

Mr Zafar also pointed out that the most serious flaws in the system relate to the transmission and distribution system. He said that the transmission system does not have the capacity to transmit the electricity because of three main reasons:

(i) there is no integrated planning which results in electricity loss.
(ii) the network is outdated.
(iii) and there is an utter lack of maintenance. He suggested that capital injection in the transmission system is necessary so as to revamp with integrated planning. Barrister Zafar further pointed out that due to leakages in distribution system at least 30% of the economic cost of delivery of power

to the consumers is caused. The reasons for leakages in the system are the use of obsolete equipment (which include overloaded transformers and under-capacity conductors), theft, non-collection of bills etc. He suggested a stepwise procedure to correct the system which includes breaking up of DISCOs into smaller units, for example, LESCO, GEPCO and FESCO can be broken up into 3 to 4 units each.

He also suggested that legislation should be passed to remove theft and non-payment of bills. He also stressed upon the need of privatizing the DISCOs in a manner where the substantial interests of the Government of Pakistan are retained. He also pointed out that to end energy crisis in Pakistan one of the key issues is conservation of electricity.[2]

Conclusion :

From the given data and analyses of usage and cost, it can be reasonably concluded that the project has, on the whole, been quite effective at reducing electrical usage. Five of the eight businesses reduced their electricity consumption from 2007 to 2008. All of the owners reported that they became more aware of their usage and, therefore, were more conscientious in their efforts to be more energy efficient. The building owners who were able to reduce their electrical usage also implemented several low-cost energy-saving measures such as using CFLs, making better use of natural light, etc.

This project was not successful in reducing natural gas consumption. It appears this is largely due to the higher costs involved in implementing gas saving measures, such as the replacement of a furnace, additional insulation, and other structural changes. Gas usage also seems to be much more at the mercy of weather than electrical usage. Building owners in this project who installed programmable thermostats

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[2] **https://pakobserver.net/minister-for-immediate-reforms-in-energy-sector-to-resolve-power-crisis/?fbclid=IwAR3pTuVpkFwMdsfWPZNdiLlwl-KyQYxfvaoeju6NAmT9QBezVYsXtwy-YK4**

(a relatively low-cost gas-saving measure) did not realize any significant cost savings. This could be due to the owners' positive behaviour pattern of dialling down the thermostat on a regular enough basis beforehand so that there would not be many variations with the programmable thermostat. There is also the possibility that the thermostats may have been improperly programmed. For any future replication projects, it is clear that there should be an educational component since participants were able to change some behaviour patterns when made more aware of energy efficiency actions that they can take.

This appeared to be a primary reason for the reduction in electrical usage for five of the businesses. Second, it would be more effective to pair a project like this with another project that could assist building owners in making major energy efficiency improvements. This could either be a loan/grant program or a low-cost provider of energy-saving improvements. Behaviour changes through education and low-cost measures to reduce consumption will primarily save on electrical usage but not gas usage. And certainly, electrical savings would be enhanced if more expensive energy efficiency improvements could be made. Issues with data collection and entry were also encountered during the follow-up.

The variation in billing periods and estimates of usage instead of actual usage were additional issues that this project could not really address.

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